Amendments to the Claims:

Claim 1 (Original): A method for aging queued commands in a data storage device, comprising:

(a) queuing one or more commands for the data storage device; and

(b) selecting a next command from the queued commands based on a combination of an expected access time (EAT) and an incentive term, wherein the incentive term provides for selection of older ones of the queued commands that have larger EATs, instead of younger ones of the queued commands that have smaller EATs.

Claim 2 (Original): The method of claim 1, wherein the combination of the expected access time and the incentive term comprises subtracting the incentive term from the expected access time.

Claim 3 (Original): The method of claim 1, wherein the incentive term is increased periodically.

Claim 4 (Original): The method of claim 1, wherein the incentive term begins at zero, remains at zero for a number of queue sorts, and then increases continuously while the command is queued.

Claim 5 (Original): The method of claim 1, wherein the incentive term's initial value and its rate of increase are parameters that control service time and affect throughput in the data storage device.

Claim 6 (Currently amended): The method of claim 1, wherein the expected access time for an n^{th} selection cycle and a q^{th} command is denoted as $EAT_{n,q}$:

$$\begin{aligned} EAT_{n,q} = {} & (SID_{n,q} - SID_{n-1}) \bmod SIDS\_PER\_REV \\ & + m * SIDS\_PER\_REV \\ & + p * SIDS\_PER\_REV \end{aligned}$$

where:

$SID_{n,q}$ is a rotational time for the q^{th} command at the n^{th} selection cycle,

SID_{n-1} is a rotational time of a previously selected command,

SIDS_PER_REV is a total rotation time,

m is an integer that is determined by a minimum seek time, <u>and</u>

p is a probability of a missed revolution[,]<u>.</u>

~~n is a selection cycle number, and~~

~~N_q is the selection cycle number when the q^{th} command was queued.~~

Claim 7 (Original): The method of claim 1, wherein the incentive term for an n^{th} selection cycle and a q^{th} command is denoted as $AGE\_EAT_{n,q}$:

$$AGE\_EAT_{n,q} = AGE\_RATE * [(n - N_q) - AGE\_DELAY]$$

where:

AGE_DELAY is a selection cycle number indicating how long the incentive term remains at zero,

AGE_RATE is a rate of increase for the incentive term,

n is a selection cycle number, and

N_q is the selection cycle number when the q^{th} command was queued.

Claim 8 (Original): The method of claim 7, wherein the $AGE\_EAT_{n,q}$ is set to zero, until $(n - N_q)$ is greater than zero.

Claim 9 (Original): The method of claim 7, wherein the AGE_RATE and AGE_DELAY are set to control how fast the incentive term increases and how many selection cycles to delay before the incentive term's increases begin.

Claim 10 (Original): The method of claim 7, wherein the AGE_RATE and AGE_DELAY are set to zero, when long service times are of no importance.

Claim 11 (Original): The method of claim 7, wherein the AGE_RATE is set to a small number and AGE_DELAY is set to a large number, when only excessive service times are to be avoided.

Claim 12 (Original): A data storage device, comprising:

a controller for queuing one or more commands for the data storage device, and for selecting a next command from the queued commands based on a combination of an expected access time (EAT) and an incentive term, wherein the incentive term provides for selection of older ones of the queued commands that have larger EATs, instead of younger ones of the queued commands that have smaller EATs.

Claim 13 (Original): The device of claim 12, wherein the combination of the expected access time and the incentive term comprises subtracting the incentive term from the expected access time.

Claim 14 (Original): The device of claim 12, wherein the incentive term is increased periodically.

Claim 15 (Original): The device of claim 12, wherein the incentive term begins at zero, remains at zero for a number of queue sorts, and then increases continuously while the command is queued.

Claim 16 (Original): The device of claim 12, wherein the incentive term's initial value and its rate of increase are parameters that control service time and affect throughput in the data storage device.

Claim 17 (Currently amended): The device of claim 12, wherein the expected access time for an n^{th} selection cycle and a q^{th} command is denoted as $EAT_{n,q}$:

$$EAT_{n,q} = (SID_{n,q} - SID_{n-1}) \bmod SIDS\_PER\_REV + m * SIDS\_PER\_REV$$

$+ p * SIDS\_PER\_REV$

where:

$SID_{n,q}$ is a rotational time for the q^{th} command at the n^{th} selection cycle,

SID_{n-1} is a rotational time of a previously selected command,

SIDS_PER_REV is a total rotation time,

m is an integer that is determined by a minimum seek time, <u>and</u>

p is a probability of a missed revolution[,]<u>.</u>

~~n is a selection cycle number, and~~

~~N_q is the selection cycle number when the q^{th} command was queued.~~

Claim 18 (Original): The device of claim 12, wherein the incentive term for an n^{th} selection cycle and a q^{th} command is denoted as $AGE\_EAT_{n,q}$:

$$AGE\_EAT_{n,q} = AGE\_RATE * [(n - N_q) - AGE\_DELAY]$$

where:

AGE_DELAY is a selection cycle number indicating how long the incentive term remains at zero,

AGE_RATE is a rate of increase for the incentive term,

n is a selection cycle number, and

N_q is the selection cycle number when the q^{th} command was queued.

Claim 19 (Original): The device of claim 18, wherein the $AGE\_EAT_{n,q}$ is set to zero, until $(n - N_q)$ is greater than zero.

Claim 20 (Original): The device of claim 18, wherein the AGE_RATE and AGE_DELAY are set to control how fast the incentive term increases and how many selection cycles to delay before the incentive term's increases begin.

Claim 21 (Original): The device of claim 18, wherein the AGE_RATE and AGE_DELAY are set to zero, when long service times are of no importance.

Claim 22 (Original): The device of claim 18, wherein the AGE_RATE is set to a small number and AGE_DELAY is set to a large number, when only excessive service times are to be avoided.

Claim 23 (Original): An article of manufacture embodying logic for aging queued commands in a data storage device, comprising:

(a) queuing one or more commands for the data storage device; and

(b) selecting a next command from the queued commands based on a combination of an expected access time (EAT) and an incentive term, wherein the incentive term provides for selection of older ones of the queued commands that have larger EATs, instead of younger ones of the queued commands that have smaller EATs.

Claim 24 (Original): The article of manufacture of claim 23, wherein the combination of the expected access time and the incentive term comprises subtracting the incentive term from the expected access time.

Claim 25 (Original): The article of manufacture of claim 23, wherein the incentive term is increased periodically.

Claim 26 (Original): The article of manufacture of claim 23, wherein the incentive term begins at zero, remains at zero for a number of queue sorts, and then increases continuously while the command is queued.

Claim 27 (Original): The article of manufacture of claim 23, wherein the incentive term's initial value and its rate of increase are parameters that control service time and affect throughput in the data storage device.

Claim 28 (Currently amended): The article of manufacture of claim 23, wherein the expected access time for an n^{th} selection cycle and a q^{th} command is denoted as $EAT_{n,q}$:

$$\begin{aligned} EAT_{n,q} = &(SID_{n,q} - SID_{n-1}) \bmod SIDS\_PER\_REV \\ &+ m * SIDS\_PER\_REV \\ &+ p * SIDS\_PER\_REV \end{aligned}$$

where:

$SID_{n,q}$ is a rotational time for the q^{th} command at the n^{th} selection cycle,

SID_{n-1} is a rotational time of a previously selected command,

SIDS_PER_REV is a total rotation time,

m is an integer that is determined by a minimum seek time, <u>and</u>

p is a probability of a missed revolution[,]<u>.</u>

~~n is a selection cycle number, and~~

~~N_q is the selection cycle number when the q^{th} command was queued.~~

Claim 29 (Original): The article of manufacture of claim 23, wherein the incentive term for an n^{th} selection cycle and a q^{th} command is denoted as $AGE\_EAT_{n,q}$:

$$AGE\_EAT_{n,q} = AGE\_RATE * [(n - N_q) - AGE\_DELAY]$$

where:

AGE_DELAY is a selection cycle number indicating how long the incentive term remains at zero,

AGE_RATE is a rate of increase for the incentive term,

n is a selection cycle number, and

N_q is the selection cycle number when the q^{th} command was queued.

Claim 30 (Original): The article of manufacture of claim 29, wherein the $AGE\_EAT_{n,q}$ is set to zero, until $(n - N_q)$ is greater than zero.

Claim 31 (Original): The article of manufacture of claim 29, wherein the AGE_RATE and AGE_DELAY are set to control how fast the incentive term increases and how many selection cycles to delay before the incentive term's increases begin.

Claim 32 (Original): The article of manufacture of claim 29, wherein the AGE_RATE and AGE_DELAY are set to zero, when long service times are of no importance.

Claim 33 (Original): The article of manufacture of claim 29, wherein the AGE_RATE is set to a small number and AGE_DELAY is set to a large number, when only excessive service times are to be avoided.

Claim 34 (Original): A method for aging queued commands in a device, comprising:

(a) queuing one or more commands for the device; and

(b) selecting a next command from the queued commands based on a combination of an expected access time (EAT) and an incentive term, wherein the incentive term provides for selection of older ones of the queued commands that have larger EATs, instead of younger ones of the queued commands that have smaller EATs.

Claim 35 (Original): The method of claim 34, wherein the combination of the expected access time and the incentive term comprises subtracting the incentive term from the expected access time.

Claim 36 (Original): The method of claim 34, wherein the incentive term is increased periodically.

Claim 37 (Original): The method of claim 34, wherein the incentive term begins at zero, remains at zero for a number of queue sorts, and then increases continuously while the command is queued.

Claim 38 (Original): The method of claim 34, wherein the incentive term's initial value and its rate of increase are parameters that control service time and affect throughput in the data storage device.

Claim 39 (Currently amended): The method of claim 34, wherein the expected access time for an n^{th} selection cycle and a q^{th} command is denoted as $EAT_{n,q}$:

$$\begin{aligned} EAT_{n,q} = & (SID_{n,q} - SID_{n-1}) \bmod SIDS\_PER\_REV \\ & + m * SIDS\_PER\_REV \\ & + p * SIDS\_PER\_REV \end{aligned}$$

where:

$SID_{n,q}$ is a rotational time for the q^{th} command at the n^{th} selection cycle,

SID_{n-1} is a rotational time of a previously selected command,

SIDS_PER_REV is a total rotation time,

m is an integer that is determined by a minimum seek time, <u>and</u>

p is a probability of a missed revolution[,]<u>.</u>

~~n is a selection cycle number, and~~

~~N_q is the selection cycle number when the q^{th} command was queued.~~

Claim 40 (Original): The method of claim 34, wherein the incentive term for an n^{th} selection cycle and a q^{th} command is denoted as $AGE\_EAT_{n,q}$:

$$AGE\_EAT_{n,q} = AGE\_RATE * [(n - N_q) - AGE\_DELAY]$$

where:

AGE_DELAY is a selection cycle number indicating how long the incentive term remains at zero,

AGE_RATE is a rate of increase for the incentive term,

n is a selection cycle number, and

N_q is the selection cycle number when the q^{th} command was queued.

Claim 41 (Original): The method of claim 40, wherein the $AGE\_EAT_{n,q}$ is set to zero, until $(n - N_q)$ is greater than zero.

Claim 42 (Original): The method of claim 40, wherein the AGE_RATE and AGE_DELAY are set to control how fast the incentive term increases and how many selection cycles to delay before the incentive term's increases begin.

Claim 43 (Original): The method of claim 40, wherein the AGE_RATE and AGE_DELAY are set to zero, when long service times are of no importance.

Claim 44 (Original): The method of claim 40, wherein the AGE_RATE is set to a small number and AGE_DELAY is set to a large number, when only excessive service times are to be avoided.